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ABSTRACT

A comparison of the scholastic achievement of office education students receiving Federal aid with office education students not receiving Federal aid was the focus of a study conducted in three two-year colleges in Utah. The Shipley Institute of Living Scale was administered in fall 1975 to all students (n=397) enrolled in typewriting, shorthand, accounting, and business machines classes at the three colleges. In June, 1976 the grade point average (GPA) of each student was computed in all completed classes. Eighty funded students were identified through a record search, and 80 nonfunded students were selected at random from the test population for comparative analysis. Demographic data collected from the sample groups revealed that the funded students tended to be older, to be or have been married, and to have more dependent children. Both groups were predominantly female. No significant differences were found between the two groups in mental ability or amount of prior work experience. Funded students had a significantly lower GPA at two colleges, but were significantly higher at the third (2.3 versus 2.0). As a total group, however, funded students achieved as well as nonfunded students. Variable data for individual participants in each group, the demographic questionnaire, and the statistical formulas used are appended. (RT)

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FEDERALLY FUNDED STUDENTS VS. NONFUNDED STUDENTS: THEIR COMPARATIVE ACHIEVEMENT IN OFFICE EDUCATION CLASSES

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A Thesis

Presented to the

Department of Business Education

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In Partial Fulfillment

of the Requirements for the Degree

Master of Science

JC 770 546

by

Veonne W. Howlett

December 1977

This thesis, by Veonne W. Howlett, is accepted in its present form by the Department of Business Education of Brigham Young University as satisfying the thesis requirement for the degree of Master of Science.

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August 18, 1977
Date

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CHAPTER I

THE PROBLEM

Introduction to the Problem

Some colleges and universities have discovered that up to 30 percent of their enrollees are subsidized partially or completely by federal government agencies, with another 10 percent attending on state funded scholarships.[1] These students may have tuition, books, living expenses, child care, mileage, or any combination of these items paid for them by their sponsoring agency. The sponsoring agency may be any one of many:

> Concern with measures to increase the employability of persons with limited skills has grown so rapidly since 1960 that there are currently 15 to 30 separate programs administered by public and private agencies, all supported by Federal funds in each metropolitan area. These activities include the Manpower Development and Training Act, the Job Corps, the Neighborhood Young Corps, the work experience programs for unemployed parents of dependent children, vocational rehabilitation for the handicapped . . . and similar efforts.[2]

The two agencies having the greatest impact in Utah are the Comprehensive Manpower Training Program, formerly the Manpower Development and Training Program, and the Vocational Rehabilitation Program.

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[1]Mable Olson, Registrar, interview held at Utah Technical College at Provo, Provo, Utah, June 11, 1976.

[2]Leonard A. Lecht, Manpower Requirements for National Objectives in the 1970's, (Washington, D. C.: U. S. Department of Labor Manpower Administration, February, 1968), p. 198.

These agencies, administered at the state and local levels, work independently of one another, but at times coordinate to provide educational opportunities in local colleges to qualifying students.

Generally speaking, sponsored students are disadvantaged in some way. The student may be poorly educated, handicapped, a single parent with dependent children, a member of a minority group, or disadvantaged in some other way. He or she may have one or more social problems.

Need for the Study

The questions may well be asked: How do these students achieve scholastically? Is the investment of taxpayers' money worthwhile?

> As one indication of the magnitude of the overall changes in national policy, appropriations for Federally supported manpower programs have grown from $275 million in fiscal year 1961 to over $2 billion in fiscal year 1966.[3]

The large investment in time and money causes some concern whether these programs are worth the cost. Other questions that might be asked include the following: Are these students able to find work upon completion of their training? Are they employed in jobs related to their training? Do they receive higher pay than they received prior to their training?

According to Mangum, a leading authority on manpower:

> MDTA's worth remains unproved after a decade of experience, not because it has never been evaluated but because none of the existing evaluations--nor all of them in aggregate--have proved the program's worth beyond logical challenge. Until

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[3]Ibid., p. 198.

> 1971, evaluations done by MDTA were scattered and fragmentary, but generally consistent in their favorable results.[4]

Several follow-up studies have been made concerning enrollees in these funded programs, primarily in terms of improved employability and increased wages. However, no studies have been completed comparing the scholastic achievement of funded students with nonfunded students. For the most part, funded students have not been integrated into the regular college classrooms but rather have attended Skill Centers and special training programs. A current trend is in evidence toward enrolling funded students in existing vocational programs.

According to Nosow, who was awarded a contract from the U. S. Manpower Administration to research MDTA programs:

> Persons taking (MDTA) training are frequently marginal, socially and occupationally. Both forms of marginality may engender deep-seated feelings of hostility toward instructor and instructor toward pupil.[5]

One may ask: Does this hostility affect achievement of sponsored students? Does the fact that the student must, in some cases, attend school or lose welfare benefits affect his or her achievement? Does being a divorced woman with several small children at home affect achievement?

On the other hand, the investigator has observed that some sponsored students seem to do as well or better than students who pay their own way through school. Both groups have several factors in

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[4]Garth L. Mangum and John Walsh, A Decade of Manpower Development and Training, (Salt Lake City, Utah: Olympus Publishing Company, 1973, p. 19.

[5]Sigmund Nosow, Retraining Under the Manpower Development and Training Act, (Michigan State University: School of Labor and Industrial Relations, 1968), p. 125.

common, such as age, prior experience in the work force, and high school training. The line drawn between advantaged and disadvantaged students is sometimes fuzzy.

Despite the fact that research has been done in the areas of employability and compensation related to manpower programs, many questions remain unanswered. Questions regarding cost analysis and achievement, in particular, need to be answered. The public needs to know whether the burden of public financing is justified. The difference between advantaged and disadvantaged students continues to become less distinct. One area of needed research is that of comparing scholastic achievement between groups.

Statement of the Problem

The problem of the study is to compare the achievement of office education students in federally funded programs with office education students in nonfunded programs.

Specifically, this study compares office education students subsidized by the Comprehensive Manpower Program and Vocational Rehabilitation with office education students not subsidized.

The study will answer the following questions:

1. How do funded students compare with nonfunded students in achievement based on final grade point average in the following selected office education classes where both students are enrolled: typing, shorthand, accounting, and business machines?

2. How do funded students compare with nonfunded students in scores on the Shipley Test of Mental Ability?

Hypotheses

The following null hypotheses were tested:

1. No significant difference at the .05 level of significance will occur between groups of funded students and nonfunded students in grade point average earned in the selected office education classes.

2. No significant difference at the .05 level of significance will occur between groups of funded and nonfunded students in scores achieved on the Shipley Test of Mental Ability.

Delimitations of the Study

1. This study was conducted in the Office Education Departments of Utah Technical College at Provo, Utah Technical College at Salt Lake. and the College of Eastern Utah.

2. The study was conducted during the academic school year 1975-1976.

3. The study was limited to student achievement in the following office education classes: typewriting, shorthand, accounting, and business machines.

4. Sponsored students included only those funded by CSTA, WIN, or Vocational Rehabilitation.

5. No attempt was made to measure attitudes or other social factors that may or may not have a bearing on students' achievement.

6. No attempt was made to evaluate the quality of instruction received by the students.

7. No attempt was made to measure the possible effects caused by the time of day the classes were held or the school quarter in which the classes were taken by the students.

8. No attempt was made to evaluate the students' aptitude for the vocational business courses in which they enrolled.

Limitations of the Study

1. The three colleges involved in the study may or may not be representative of all colleges which enroll funded students.

2. Sponsored students attending Utah Technical College at Salt Lake were primarily sponsored by Vocational Rehabilitation rather than CETA or WIN. Since most students in these latter two programs are taught in a separate Skill Center, the effect of the absence of students in the CETA and WIN programs at the school is unknown.

3. The grade point averages for all students were based on the student's actual grade received in the office education classes in the three schools. The assumption must be made that the teachers in all three schools were generally consistent in their grading patterns.

4. Teachers may or may not have been biased in favor of either funded or nonfunded students. The effect of any teacher bias is unknown.

5. The degree of reluctance among students to answer questions of a personal nature truthfully--such as marital status and number of dependent children--is unknown. As a result, the

findings reflect the responses received. Thus, it must be assumed that these responses were truthful.

6. The effect of the students' knowledge that they were taking a test for research purposes is not known. Privacy laws required that the students have knowledge of the purpose of the test.

Definition of Terms

Funded group--Those students in each of the three colleges who were subsidized partially or wholly for tuition, books, child care, travel, school supplies, and living expenses by CETA, WIN, or Vocational Rehabilitation.

Nonfunded group--Those students in each of the three colleges who were not subsidized by CETA, WIN, or Vocational Rehabilitation.

CETA--A program designed to give educational opportunities to the economically disadvantaged as determined by the local office of the Utah State Employment Service under criteria determined by the federal government. This program is financed by the federal government with funds channeled through the governor's Office of Manpower Affairs to the local office of the Association of Governments, for example, in Provo, through the Mountainlands Association. The local office of the Association of Governments then contracts with the local office of the Utah State Employment Service to administer the program. This procedure has been followed since the inception of the CETA program. CETA is an abbreviation for Comprehensive Employment Training Act.[6]

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[6]Blair Guymon, interview held at Provo Employment Service, Provo, Utah, June 9, 1976.

WIN--A program designed to give educational opportunities to unemployed heads of families with dependent children. The funding of this program is identical to that of the CETA program. WIN is an abbreviation for Work Incentive Program. Although there are several different classifications under this title, all are administered under criteria established by the federal government.[7]

Vocational Rehabilitation--A program designed to give educational opportunities to persons who are mentally or physically disabled. The Vocational Rehabilitation office is a division of the Utah State Board of Education. It is funded by appropriation by the Utah State Legislature, with matching funds from the federal government at a ratio of 80 percent federal funds to 20 percent state funds. The state legislature appropriates funds for this program every two years. The funds are then channeled to the local offices of Vocational Rehabilitation for administration. Prospective students are interviewed locally by counselors of the Vocational Rehabilitation office.[8]

MDTA--The Manpower Development and Training Act passed by Congress in 1962 was authored by Senator Joseph S. Clark and was designed to be administered jointly by the Department of Labor and the Office of Education. In 1974, Congress legislated the Comprehensive Employment Training Act, which evolved from the MDTA and other funding programs.

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[7]Ibid.

[8]Melvin C. Clark, interview held at the Provo Office of the Utah Vocational Rehabilitation Office, Provo, Utah, June 9, 1976.

Shipley-Institute of Living Scale--The standardized test given to all students in both the funded and nonfunded groups. It consists of a 10-minute vocabulary test and a 10-minute abstraction test. The scale was originally designed as a test of mental impairment but has been found to be reliable and valid as a measure of mental ability. The test is further described in Chapter III.

UTC/SL--An abbreviation for Utah Technical College at Salt Lake, Salt Lake City, Utah.

UTC/P--An abbreviation for Utah Technical College at Provo, Provo, Utah.

CEU--An abbreviation for College of Eastern Utah at Price, Utah.

Achievement--A measure of terminal performance or success as measured by the student's grade point average in typewriting, shorthand, accounting, and business machines classes.

Organization of the Study

The remainder of the study is organized as follows: Chapter II presents a review of the related literature, Chapter III presents the research methods and procedures which were followed in this research, Chapter IV contains the findings of the research, and Chapter V presents the summary, conclusions, and recommendations of the study.

CHAPTER II

RELATED LITERATURE

Introduction

The literature reviewed in this chapter focuses on (1) the history of manpower and vocational rehabilitation programs as they relate to technical education, (2) the philosophy and objectives of federally funded programs, and (3) studies regarding attitudes and achievement of funded students.

History of Manpower and Vocational Rehabilitation Programs

The earliest responses to the need for manpower in the United States were the use of slavery and indentured servants. During the 1800's virtually the only source of information about human resources, or manpower, came from the decennial census required by the Constitution. In actuality, the census was not designed for this purpose, but rather to apportion representatives. The information in the census, therefore, was of limited value. During the early 1900's the census listed trades or occupations of workers but was not designed to report unemployment.[9]

The Morrill Act of 1862, which established the Land Grant College system, and the Smith-Hughes Vocational Education Act of 1917

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[9]Sar Levitan, et. al., Human Resources and Labor Markets, (Salt Lake City: Olympus Press, 1975), p. 75.

were enacted in response to the changing economic requirements of the nation.

The Depression of the 1930's brought increased concern for the welfare of individuals, and a series of experimental programs followed. Among the legislative and administrative programs enacted during the 30's and 40's were the following:

Wagner-Peyser Act, which established the U. S. Employment Service
Social Security Act, which created unemployment compensation
National Labor Relations Act of 1935
Fair Labor Standards Act
Federal Emergency Relief Act
Civil Works Administration
Works Progress Administration
Civilian Conservation Corps
The Fitzgerald Act, which was designed to promote apprenticeship
GI Bill of 1944, which provided training and subsistence allowances[10]

These were followed by the Employment Act of 1945, which declared as national policy that all who wanted to work had a right to do so. The Employment Act of 1946 compromised the views of the Senate's 1945 bill with the conservative House of Representatives to result in the goal of a high level of employment.

> The Employment Act of 1946 stimulated interest in the size of the labor force for which jobs were to be provided "for all of those willing, able, and seeking to work." In the 1950s, creeping unemployment, often attributed to a mismatch between available and demanded skills, intensified the need to foresee changes in manpower supply and demand. The development of new manpower programs in the mid-1960s increased demands for advance information about manpower changes.[11]

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[10]Garth L. Mangum, The Emergence of Manpower Policy, (New York: Holt, Rinehart and Winston, Inc., 1969), pp. 16-24

[11]Sar Levitan, Human Resources and Labor Markets, p. 76.

In the 1950's economic objectives included price stability, budget balance, and balance of payments equilibrium. In 1958, unemployment reached 7.4 percent and exceeded the 5 million limit of the 1930's. A Senate Special Committee on Unemployment Problems was appointed in 1959. Its recommendations, including a Youth Conservation Corps, generated concern over the next three years and eventually culminated in the MDTA Act of 1962, the Vocational Education Act of 1963, and later, the 1968 amendments.

> The new Vocational Education Act departed completely from the philosophy of previous ones, ignoring occupational categories and emphasizing the needs of the people: "Those in high school, those who have completed or discontinued their formal education and are preparing to enter the labor market, those who have already entered the labor market but need to upgrade their skills or learn new ones, and those with special educational handicaps" were all to "have ready access to vocational training or retraining which is of high quality, which is realistic in the light of action or anticipated opportunities for gainful employment, and which is suited to their needs, interests, and abilities to benefit from such training."[12]

Through the depression years of the 30's, the war years of the 40's, and the recessions of the 50's, concern about the credibility of employment and unemployment information prompted reliable scrutiny of manpower information in the 60's. The evolvement of "manpower policy" thus began in the 1960's. Today in the United States, as well as in Europe, the maintenance of full employment is accepted as a public responsibility.

Following the Manpower Training and Development Act of 1962, the initiative in manpower policy began to shift from the Congress to the Executive Branch. The Labor Department had gained enough interest from the public to request modification of existing programs and later

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[12]Garth Mangum, The Emergence of Manpower Policy, p. 43.

to recommend new programs. The Council of Economic Advisors began planning, and as a result of the Economic Opportunity Act of 1964, a new agency was born--the Office of Economic Opportunity.

> At the same time, rising black militancy, which had begun with a request for equal access to public facilities was swinging to demands for equal economic opportunity and equal results.[13]

In 1965 the Elementary and Secondary Education Act and the Higher Education Act increased the amount of federal aid to education. Other measures such as discontinuance of excise tax and a tax cut in the Federal income tax were employed to aid the economy. In 1968 and 1969, an attempt was made to stimulate the economy through private sources in a new program promoted by the National Alliance of Businessmen. The bipartisan approach continued to emphasize government subsidies for the private employment of the disadvantaged.[14]

The 1970's brought loss of interest by Congress in administrative reform, a $1 billion public service employment bill, and the "revenue sharing" concept by the Administration under which manpower monies would be allocated to cities and states by formula to be used at their discretion.

> One can only conclude that, like Social Security and compensatory fiscal policies, manpower programs designed to assist the disadvantaged are permanent aspects of the public policy scene. Certainly, the programs should be evaluated to ensure more effective performance.[15]

Government funding for Vocational Rehabilitation began under the Smith-Hughes Act of 1917 and was expanded by matching grants for the training of the industrially disabled through the Smith-Fess Act of

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[13]Sar Levitan, Human Resources and Labor Markets, p. 307.

[14]Ibid., p. 318. [15]Ibid., p. 324.

1920. The immediate impetus for rehabilitation services was the need for training disabled World War I veterans. The federal government added support to programs already underway in several states.

The program at first operated under the independent Vocational Education Board and later in the Education Division of the Department of the Interior. In 1939, the Federal Security Agency was established and the Vocational Rehabilitation Program was transferred to it. It remained limited to training the physically disabled with no medical or other services. From 1922 to 1938 rehabilitation expenditures decreased causing states to demand the separation of rehabilitation from vocational education and to demand broader federal support.

World War II caused society to focus new attention on rehabilitation. The LaFollette-Barden Act of 1943 established the current vocational rehabilitation program. As a result, the federal tie to vocational education was severed and an independent office of Vocational Education was organized in the Federal Security Agency. Client eligibility was expanded to include the blind and mentally handicapped.

The 1954 amendments authorized a strong research program and federal grants for university support and individual fellowships to train rehabilitation personnel. Amendments of 1968 set a matching ratio for the basic support of state rehabilitation activities to a 75 percent federal share and resulted in a doubling of federal expenditures in the following two years.[16]

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[16]Garth Mangum and Glen Lowell, Vocational Rehabilitation and Federal Manpower Policy, (National Manpower Policy Task Force, George Washington University, 1967), p. 49.

Philosophy and Objectives of Manpower Programs

It has often been said that the one thing a person can be sure of is change. The objectives of manpower programs have been in a constant flux since the birth of this country. Federal efforts have been largely a reaction to the real and/or imagined problems of the public.

In recent years the national issues have included (1) the population explosion following World War II, (2) the subsequent decline of the birth rate with improved birth control technology, (3) concern about worldwide ecology, (4) equal opportunity demands for women, blacks, and other minorities, (5) concern about limited alternatives for the disadvantaged, and (6) the changing work ethic among the young and the subsequent effect upon manpower and manpower legislation.[17]

Mangum describes the goal of American society and the effect of the goal upon manpower in this way:

> The long-term goal of American society has been individual freedom . . . the extent of freedom has been measured operationally by the range of opportunities available to the individual and the relative absence of constraints upon his ability to choose . . . The interminable debate in US public policy has been between those who viewed government as the major threat to freedom and those who found in it an effective tool for enlarging the own range of choice.[18]

At the very heart of the goal of individual freedom is employment (or unemployment) and methods of dealing with it. The nation was faced with unemployment in the 1930's, a shortage of workers in the 1940's, creeping unemployment in the 1950's, a debate over whether creeping unemployment existed in the 1960's, and a rising rate of unemployment

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[17]Sar Levitan, Human Resources and Labor Markets, pp. 573-78.

[18]Garth Mangum, The Emergence of Manpower Policy, p. 2

in the 1970's. The causes and solutions to the problems are not easily agreed upon by the experts.

According to Mangum, the causes of unemployment in recent years fall into three groups or explanations, "each strongly held by various groups . . . (1) technological change . . . displacing experienced workers, (2) structural changes . . . which so twisted labor market demand as to leave jobs at higher levels unfilled, and (3) the economy was simply not growing rapidly enough to absorb . . .new entrants."[19]

> Those holding the first two views were convinced that no shortage of jobs existed . . . it was a case of square pegs unable to fill round holes. To reshape the pegs by means of retraining programs seemed a reasonable answer. Meanwhile, those holding the third view, anxious for any increase in total expenditures which would spark a revival of growth could see nothing particularly wrong with spending for retraining.[20]

Mangum further explains that as a result, the federal government has spent and continues to spend billions of dollars on manpower training.

> The eventual objective of these publicly subsidized programs, as in the institutional training programs established under the MDTA and subsidized union training programs, is employment in the private sector.[21]

Myers further states that federal funds and private funds will continue to be spent as long as an emphasis on employment of the disadvantaged continues. However, he questions whether the expenditures will stand

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[19]Garth Mangum and John Walsh, A Decade of Manpower Development and Training, p. 7.

[20]Ibid., p. 8.

[21]Charles A. Myers, The Role of the Private Sector in Manpower Development, (Baltimore: The Johns Hopkins Press, 1971), p. 90.

the test of rigorous cost analysis, which private industry must impose upon itself.[22]

Mangum writes that the success of manpower policy can be measured ultimately by the degree to which it provides individuals with income and status through employment.[23]

He also states that the past six years [1961-1967] has spawned a variety of manpower and antipoverty programs . . . the most positive contribution of which has been aid to the disadvantaged. Among these programs are:

1. Outreach to seek out the discouraged and under-motivated.
2. Adult basic education and remedial skill training.
3. Subsidization of training costs to induce employers to accept less attractive employees for on-the-job training.
4. Work experience for those unaccustomed to the discipline of the work place.
5. Job development to solicit employer support and uncover job opportunities.
6. Creation of public service jobs tailored to the needs of job seekers not absorbed in the competitive job market.
7. Supportive services . . . medical . . . day care . . . training allowances.
8. Relocation allowances for residents of labor surplus areas.[24]

The continuous outlay of money for manpower programs has fortunately produced a recognition of the need for measurement and

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[22]Ibid.

[23]Garth Mangum, The Emergence of Manpower Policy, p. 7

[24]Garth Mangum and Glen Lowell, Vocational Rehabilitation and Federal Manpower Policy, p. 2.

evaluation of such programs; and as a result of this recognition, the increasing need for research is indicated.

The National Manpower Policy report of 1969 says of Howard Rosen, Director of the Office of Manpower Research,

> He noted the importance of applying inter-disciplinary approaches to the solution of problems and suggested that researchers be courageous social engineers and willing to apply their research results to the improvement of manpower programs and policies. He concluded by arguing that social scientists should do more than research for its own sake, but rather evidence a willingness to pragmatically apply the results of their work to the betterment of society.[25]

Former Secretary of Labor George P. Shultz spoke of the need for effective evaluation as being continuous, but especially acute when large amounts of public and private resources are involved and when the consequences of misconceived programs may be far reaching. He said, "In effect, the need for sound methods of evaluation transcends any particular substantive problem. We all need tests and standards that will keep us honest men."[26]

Initially, evaluation and analysis of funded programs lagged because of the pace of expansion. However, evaluators such as the Department of Health, Education, and Welfare, nonprofit organizations, and particularly the Department of Labor, helped in the modification of the programs and in plotting future courses of action. Manpower evaluators came from many different backgrounds--labor, education, and government--and the diversity caused some confusion, but at the same time, proved valuable.

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[25]National Manpower Policy Task Force, Reports: New Manpower Researching Committee, (NMPTF, Washington, D. C., 1966-1971), p. 6

[26]Industrial Relations Research Association, "Priorities in Policy and Research for Industrial Relations," Proceedings of the 21st Annual Winter Meeting, (Industrial Relations Research Association, 1969), p. 11

> Applied research usually receives less academic recognition than pure research, but this has not been the case in the manpower field. Since the outset, there has been a pragmatic policy focus to manpower analysis. The sometimes harsh light of evaluation has focused much more strongly in the manpower field than in other areas, such as education.[27]

One of the primary objectives of manpower, then, is long- and short-term evaluation of the programs. Borus and Tash reviewed past methods of evaluating the success of manpower programs and recommended methods to be used in the future. Past evaluation procedures, they stated, have included: (1) project monitering to see if the model is being followed and how procedures may be modified, (2) measurement of short-term goals when immediate information of success or failure is needed, and (3) impact evaluation, or long-term evaluation. They recommend that in studying long-term impact, objectives be set up for society, the individual, employers, and the government.

The development of short-term indicators such as program efficiency, participant attitudes, goal achievement, and post-program success, be undertaken. Finally, they recommend the use of multivariate analysis.

> When dealing with independent and dependent variables, all may be important, so use of multivariate techniques should be used to discover and test the statistical significance of any relationships that are observed.[28]

Borus recommends examination of personal independent variables such as sex, age, education, and ethnic groupings; program component independent variables; and exogenous independent variables, which involves different

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[27] National Manpower Policy Task Force Reports, p. 2

[28] Michael Borus and William Tash, Measuring the Impact of Manpower Programs, (Lexington, Massachusetts: D. C. Heath Company, 1972) p. 21

conditions under which the program takes place. Finally, Borus states that evaluation "forces those responsible for manpower program decisions to attach weights to their goals and to quantify the success and costs of a program, as far as is possible, rather than rest content with vague qualitative judgments and personal hunches."[29]

Relevant Studies Regarding Attitudes and Achievements of Funded Students

In 1966, Nosow concluded a follow-up study of 406 trainees in the MDTA program. Of these, 72 percent had completed their training. He found that three months after the program's completion, approximately 60 percent of the 406 trainees for whom information was available held jobs related to their training. The most striking results concerned persons who were marginal to the labor force. In effect, he found that most of these persons lose this marginal character after completing their training. Persons who do not complete the training generally retain their marginal character even in a tight labor market.[30]

London, in an 18-month follow-up study of MDTA trainees, found these changes in trainees following their training:

1. Even though far from ideal, there was an indicated improvement in living conditions after 18 months.
2. There was little, if any, reduction in the number of trainees receiving welfare, but an increase in ability to meet living expenses and in number reporting savings accounts.

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[29]Ibid.

[30]Sigmund Nosow, Retraining Under the Manpower Development and Training Act, (Michigan State University: School of Labor and Industrial Relations, 1968), p. 3 (1)

3. There was a substantial increase in the amount of money spent for food.

4. Automobile ownership increased substantially, but there was no increase in extended trips.

5. Trainees were spending more for taxes, medical care, and luxuries.

6. There was a marked increase in community affairs, but not a great amount of interest in continuing education.[31]

Among his recommendations, London made a plea for closer coordination of the various agencies that serve the poor and unemployed to minimize overlapping and duplication of services. He recommended closer screening and selecting of applicants to provide them with opportunities relevant to their abilities and interests. Finally, he recommended assistance in family planning, development of day nurseries, and continuing education in child care, consumer education, and family relations.[32]

Edgerton and Sylvester computed correlations on characteristics of MDTA trainees and MDTA program characteristics based on two simple success indicators--(1) retention (persons completing the course), and (2) placement (trainees who were subsequently employed). Characteristics which showed a high correlation with successful retention and placement included the finishing of high school, the absence on public assistance rolls, the attaining of an employable skill, and the holding of a recent job. People having these characteristics were not the ones the MDTA was designed to help; therefore, the use of these indicators as a means of screening trainees was not reasonable.

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[31]H. H. London, How Fare MDTA Ex-Trainees, (Columbus, Missouri: University of Missouri, 1967), p. 125.

[32]Ibid., p. 22

Edgerton and Sylvester suggested a series of actions which might be undertaken to enhance success through improving retention in the program and placement. The suggestions for improving retention of the trainees in the program included the following: reduce absenteeism; reduce class size and the trainee:teacher ratio; promote a sensible counseling program, especially taking advantage of the instructor; insure that neighbors do not object to the program; handle discipline problems by prevention; develop valid ways of measuring progress in learning; adjust to level and energy of the trainee; have the course preplanned; have adequate financial allowances; and have a knowledge of the trainee's ability.

They suggested the following as a means of improving placement: make use of aptitude tests; see that difficulty and time demands are reasonable; prevent serious disciplinary problems; have adequate and good equipment; insure neighbors' acceptance; have available an estimate of trainee's quality of work in the course; develop contacts with local industry; encourage counseling by the instructor; evaluate the instructor's performance; select instructors who have had experience in their field of work.[33]

Hardin and Borus studied a limited enrollee sample in Michigan which was controlled by eligible persons who qualified for but did not seek training. According to Mangum:

> The interesting conclusion was that enrollment in training programs paid off in incremental earnings, but once the trainee was enrolled, the shorter the time he remained in

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[33]Harold Edgerton and Robert Sylvester, Prediction of Outcomes of MDTA Programs. (U. S. Office of Education: Performance Research, Inc., 1966), p. 66.

> the program, the better off he was. Training of less than 200 hours' duration paid off, but lengthier programs did not. One speculative possibility is that dropouts may have obtained jobs in a recovering auto industry while completers were being prepared for lower paid jobs, though the authors tended to discount that explanation.[34]

Main completed a follow-up study in 1968 in which he examined 1,200 enrollees as well as a control group of 925 who were identified in retrospect by friends and relatives as unemployed and eligible but not enrolled. The findings of this study indicated substantial improvements in income because of employment stability.[35]

Gurin produced an attitudinal survey in 1970 and in his words:

> This research study was not an "evaluation" in the usual sense. There was not a control group of people, comparable to the trainees, who did not enroll in the training classes, and no attempt was made to estimate the "benefits" accruing from the program.[36]

Gurin's study included approximately 6,000 trainees in 300 programs. This study was primarily concerned with the attitudes and motivations of the trainees and how these factors related to the trainee's decision to complete the program or drop out. The study also reviewed each trainee's history in the post-program world.[37]

In his analysis of current research concerning manpower, Mangum stated:

> The most careful study, in terms of methodology, credited OJT /on-the-job training/ with a significant increase in earning for both men and women, while institutional trainin

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[34]John Walsh and Garth Mangum, A Decade of Manpower Training, p. 20.

[35]Ibid.

[36]Gerald Gurin, A National Attitude Study of Trainees in MDTA Institutional Programs, (Ann Arbor, Michigan: University of Michigan, 1970), p. 213.

[37]Ibid.

> profited only men. However, despite its careful selection of a control group and commendable methodology, its sample was rural, small, geographically limited, and almost entirely black. Generalizing from it would appear to be hazardous.[38]

In 1972, Franklin completed a follow-up study of Work Incentive (WIN) dropouts. As his study was done in southern California, most of the enrollees were Spanish speaking. The enrollees were interviewed at three different time intervals. Comprehensive information on each enrollee was available to the researcher. The enrollees became more homogeneous as time proceeded. Franklin's study included responses of the enrollees, those who had dropped out, and the WIN staff:

> WIN staff considered who was most likely to complete an employability plan, was free from the pressures of health, housing, and family problems, possessed a high degree of motivation which he translated into a respectable level of achievement, engaged in fruitful communication with both staff and fellow-trainees, possessed a realistic job goal, and readily accepted the employability plan suggested by the WIN staff.[39]

He described the dropout as almost completely opposite to the above description as "one who was plagued with serious personal problems . . . and also reacted negatively to alternative suggestions offered by the staff." He also indicated several organizational problems concerning delays after the initial interview for enrollement and stated that five months after the initial contact slightly over one-third of the original sample had left the program.[40]

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[38]John Walsh and Garth Mangum, A Decade of Manpower Development and Training, p. 21.

[39]Davis S. Franklin, Longitudinal Study of WIN Dropouts, (Los Angeles, California: Regional Research Institute in Social Welfare, April, 1972), p. 194.

[40]Ibid.

In 1970 and 1971, Decision Making Information (DMI), a survey research firm with substantial attitude polling and experience, conducted a nationwide outcomes study. The sample was selected from 40 nationwide sites. No control group was used in the study because of difficulty in identifying an equated group of nonenrollees and because of the cost involved. This firm found that improvement in the employment stability and earnings was the primary measure of success.

Mangum analyzed the study by Decision Making Information as follows:

> Although this study is no less vulnerable than the others in its methodology, it is larger, more recent, and provides useful insights . . . one can never be sure what the "no program" result would have been in the absence of a valid control group; nor is it easy to assure that a control group is really comparable upon all the relevant variables.[41]

Only one study was located in which persons enrolled in manpower or other federally funded programs were compared with persons not enrolled in funded programs with both groups attending similar courses of training. This was a follow-up study of 140 graduates of automotive training. The purpose of the study was to determine if funded students were as successful in finding gainful employment as were nonfunded students. No significant difference in job finding success was the primary finding of this study.[42]

The only study located that discussed or separated trainees into vocational groups allowing office education students to be identified was that of Nosow. This was a follow-up study of 375 MDTA

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[41]Garth Mangum and John Walsh, A Decade of Manpower Development and Training, p. 23.

[42]Donald Pendergrass, Job Placement of Welfare Trainees, (unpublished Master's thesis, Brigham Young University, 1971), 3[illegible] pages.

trainees, 62 of whom were classified as clerk-steno. He concluded that retraining was successful for persons in his sample based on course completion and labor market outcomes, with the most striking results for those who were marginal to the labor force. Again, no attempt was made to use a control group.[43]

Mangum, considered by many to be the foremost authority in the United States on manpower, or human resources, stated in a personal interview that little or no research had been done in comparing funded students with nonfunded students in a standard school or college setting because in the past, most manpower students have been taught in segregated courses with only funded students in the training group. He further stated that a recent tendency has been to place these funded students in a regular classroom setting with nonfunded students.[44]

Inasmuch as millions of dollars continue to be spent on these programs, it seems appropriate to compare achievement of funded students with the achievement of nonfunded students in regular technical college classrooms.

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[43]Sigmund Nosow, Retraining Under the Manpower Act, p. 3 (1)

[44]Garth L. Mangum, interview held at University of Utah, Salt Lake City, Utah, October, 1975.

CHAPTER III

PROCEDURES

Introduction

The procedures used in this study are detailed in the following sections: (1) General Procedures, (2) Population of the Study, (3) Sample of the Study, (4) Selection and Administration of the Testing Instrument, (5) Statistical Analysis, and (6) Summary.

General Procedures

This study was conducted in three two-year colleges in Utah during the 1975-1976 school year: Utah Technical College at Salt Lake, Utah Technical College at Provo, and College of Eastern Utah. A total of 150 students in selected office education classes comprised the sample.

Permission to conduct the study was obtained from the Utah State Employment Agency, the Utah State Rehabilitation Division, and the administration of each college. Permission was also obtained from the department chairman and the registrar of each school.

Colleges were selected to participate because of the availability of the colleges to the researcher, and a willingness by the colleges to cooperate. Funded students in other two-year colleges in the State of Utah were either too few in numbers to obtain a valid sample or were taught in skill centers separate from the nonfunded students.

All three colleges operated on the quarter system, with approximately 10 weeks in each quarter. Classes met daily for 50 minutes. Funded students were interviewed by administrators of the funding programs prior to their enrollment in school, and were subsequently enrolled if they met the criteria established by the funding program.

In order to compare the mental ability of the funded students with the nonfunded students, the Shipley Family Living Scale, a 20-minute vocabulary and abstraction test, was administered Fall Quarter, 1975. This test was administered approximately two weeks after the beginning of school to enable registration to stabilize and to eliminate students who attended school for the first few days of class only.

The researcher attempted to test all students in the three colleges enrolled in typewriting, shorthand, accounting, and business machines classes according to the following procedure: At UTC/Salt Lake and UTC/Provo all typewriting classes were tested. At the College of Eastern Utah all 8 a.m. and 9 a.m. classes were tested. No student was tested more than once. Since it was not feasible to assemble all office education students in one place at one time to be tested, this procedure permitted the testing of most office education students. The total number of students tested was 397. Of these, 120 students were from UTC/Salt Lake, 62 students were from College of Eastern Utah, and 215 students were from Utah Technical College at Provo. No attempt was made to test students absent the day of the testing. These students, therefore, were not included in the study.

Each group of students was given identical verbal instructions for taking the Shipley test. A brief questionnaire and a release form was completed by each student allowing the results of the test and his or her final grade to be used for research purposes. (See Appendix C for questionnaire and release form.) Three students elected not to take the test for reasons of privacy.

The researcher and an assistant administered the tests. The test administrator orally read the instructions after which the students were allowed 10 minutes to complete the first half of the test. Directions for the second half were read aloud and students were given a second 10 minutes to complete the test. Completed tests were collected and scored by the researcher.

In June, 1976, the grade point average of each student was computed for the typewriting, shorthand, accounting, and business machines classes completed during the 1975-1976 school year. Other classes completed were not considered. Grade point average was obtained through a manual search of student transcripts plus the final quarter report cards, and was computed using a calculator.

All collected data were coded onto IBM data cards. These data included student number, Shipley test score, age, sex, year in school, school, marital status, number of dependent children, work experience, length of time outside the work force, sponsoring program, and grade point average in the selected classes. An analysis of variance statistical procedure was used to determine comparative achievement between the funded and nonfunded groups.

Population of the Study

The population of this study was all office education students enrolled in typewriting, shorthand, accounting, and business machines classes at Utah Technical College at Provo, Utah Technical College at Salt Lake, and College of Eastern Utah. From this population, 397 students were tested, completed questionnaires, and signed release forms. Sixteen of the students were male; 381 were female. Ages ranged from 17 years to 53 years. Five students were widowed, 33 were married, 51 were either divorced or separated, and 308 were single. The number of dependent children ranged from none to 9. Work experience ranged from none to 23 years. Of the 397, 80 were funded by CETA, WIN, or Vocational Rehabilitation.

Funded students were identified by a manual search of records available in the registrars' offices of the three colleges. Students funded by programs other than those included in the study, such as the Bureau of Indian Affairs, Social Security, and Veterans programs, were eliminated from the study. This was necessary because of few numbers and an inability to match racial characteristics.

Sample of the Study

Of the 80 students funded by CETA, WIN, and Vocational Rehabilitation, 74 completed one or more quarters of school and comprise the funded group for this study. Students not completing at least one quarter had no grade point average and were eliminated from the study. Eighty nonfunded students were selected from the population for inclusion in the study using a table of random numbers.[45]

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[45]Rand Corporation, Random Digits, (Glencoe, Illinois: Free Press, 1955) p. 1.

Of the 80, 76 completed one or more quarters and comprise the non-funded group for this study.

The 74 funded students and 76 nonfunded students were compared initially using an analysis of variance statistical procedure. They were found to be homogeneous on the basis of mental ability and work experience. This comparison appears in graphic form in Chapter IV.

Selection and Administration of the Testing Instrument

A mental ability measurement was needed for comparing the homogeneity of the two groups included in the study. High school grade point average was not available as many students either had not completed high school or had completed high school several years prior to the study. In addition, the two technical colleges did not require a high school transcript for entrance. The General Aptitude Test Battery was available for approximately one-fifth of the funded students and the time required to administer this test was prohibitive.

A search of appropriate tests indicated that the Shipley Institute of Living Scale was a valid measurement for this study.[46] Bradford, of the University of Sheffield, stated: "This test . . . can be usefully employed in estimating the ability of persons of normal (mental) health."[47]

Hunt, of Northwestern University, further indicated:

> Reliability of .87, .89, and .92 were obtained for vocabulary, abstraction, and total score. Correlations of .65 and .77 have been reported between Shipley and the Wechsler-Bellevue scale.

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[46]Institute of Living, Shipley-Institute of Living Scale, (Los Angeles, California: Western Psychological Services, 1967)

[47]Oscar K. Buros, Mental Measurements Yearbook, 6th ed., (Highland Park, New Jersey: Gryphon Press, 1968), p. 95.

> This indicates that the test may serve satisfactorily as a quick measure of intelligence.[48]

The Shipley Scale required 35 minutes for administration and consisted of two parts: The first part was a 40-item vocabulary test requiring the student to select from four choices a synonym for a given word. The second part contained 20 abstraction problems in which the student was required to complete a blank or blanks following each problem. Students were timed in completing both sections of the test. No advance knowledge of the test content was supplied to any student.

A total score for each test was computed by formula. This score represented the mental age of the student on a scale of 8.4 to 21.0 The test is not considered reliable for persons under 14; however, no student in the sample was under 17 years of age. Because the Shipley Scale is copyrighted, permission could not be obtained to include a copy of it in the Appendix.

Statistical Analysis of Data

Since this study involved two groups of students and three colleges, a double classification analysis was required. An analysis of variance statistical procedure was used with schools and funding as the main factors and with mental ability, number of dependent children, and months of work experience as independent variables. The program was prepared in the fall quarter to include all factors and independent variables except GPA and was completed immediately following the testing of students for mental ability using the Shipley test. The program was run again at the end of the school

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[48]Ibid.

year to include final mean GPA in office education classes. All data were analyzed by the IBM 360 computer at Brigham Young University, using a generalized analysis program developed by the Brigham Young University Statistics Department capable of analyzing unbalanced and balanced univariates and multivariate analysis of variance problems, as well as univariate and multivariate regression problems. Upon completion of the analysis, the findings were interpreted and analyzed in both table and narrative form in Chapter IV.

Summary

This study involved 74 federally funded and 76 nonfunded office education students in three two-year colleges during the 1975-76 school year. The two groups were compared on the basis of mental ability, age, marital status, number of dependent children, school attended, and final grade point average in selected office education classes. Analysis of variance was used to make the comparisons.

CHAPTER IV

FINDINGS

Introduction

The findings of this study are based on an analysis of final grade point average in selected office education classes and on the Shipley Family Living Scale test scores earned by 150 college students in three Utah colleges. The findings are described in the three following sections: (1) Preliminary Data on Study Participants, (2) Statistical Analysis, and (3) Summary of the Findings.

Preliminary Data on Study Participants

From an original population of 397 students from the three colleges, 80 were funded by CETA, WIN, or Vocational Rehabilitation. Using a table of random numbers, 80 nonfunded students were selected for inclusion in the study. Of these 80 funded and 80 nonfunded students, 6 funded and 4 nonfunded students did not complete a minimum of one quarter of school and were eliminated from the study, leaving 74 funded and 76 nonfunded students in the sample. Table 1, page 32, indicates the number of funded and nonfunded students attending each school.

As can be seen from the table, 43 students were funded by Vocational Rehabilitation, 16 were funded by CETA, and 15 were funded by WIN, making a total of 74 funded students. The funded students at

UTC/Salt Sake and at CEU were primarily funded by Vocational Rehabilitation, while at UTC/Provo a greater percentage of the students were funded by CETA and WIN. The total sample from UTC/Salt Lake was 43 students; from UTC/Provo, 83 students; and from CEU, 24 students; making a total of 150.

TABLE 1

FUNDED AND NONFUNDED STUDENTS IN THE THREE COLLEGES INCLUDED IN THE SAMPLE

College	Students Funded by Program				Nonfunded Students	Total Sample
	Rehab.	CETA	WIN	Total		
UTC/SL	21	0	1	22	21	43
UTC/P	8	14	14	36	47	83
CEU	14	2	0	16	8	24
Total	43	16	15	74	76	150

Through the use of a questionnaire, each student identified personal characteristics pertinent to this study, including age, sex, marital status, number of dependent children, months of work experience, source of funding, and the college attended. The age and sex of the students are summarized in Table 2.

The sample contained primarily female students. The majority of the students in the funded group were between 18 and 30 years of age, and between 18 and 25 in the nonfunded group. Marital status differed significantly between the funded and nonfunded groups.

TABLE 2

AGE AND SEX
OF FUNDED AND NONFUNDED STUDENTS

Age in Years	Funded Students		Nonfunded Students	
	Female	Male	Female	Male
18-20	23	1	59	2
21-25	25	1	11	1
26-30	10	0	0	0
31-35	4	0	1	0
36-40	3	0	0	0
41-45	3	0	0	0
46-50	3	0	2	0
51-55	1	1	0	0
Total	71	3	73	3

TABLE 3

MARITAL STATUS AND NUMBER OF DEPENDENT CHILDREN
OF FUNDED AND NONFUNDED STUDENTS

Marital Status	Funded Students				Nonfunded Students
	CETA	WIN	REHAB.	Total	
Single	8	0	13	21	70
Single with Children	0	4	3	7	1
Married	0	0	4	4	1
Married with Children	1	0	3	4	2
Divorced, widowed, or separated	0	0	2	2	1
Divorced, etc, w/children	7	11	18	36	1
Total	16	15	43	74	76

Seventy of the 76 nonfunded students were single, as indicated in Table 3. Thirty six of the 74 funded students were divorced, widowed, or separated, and had dependent children. This difference was expected since CETA and WIN are designed to assist persons in this situation.

Statistical Analysis of Data

Since this study involved two groups of students and three colleges, a double classification analysis was required. An analysis of variance was used initially in the fall quarter involving a factorial experiment with schools and funding as the main factors and with mental ability, number of dependent children, and work experience as independent variables. All data were analyzed by the IBM 360 computer.

Table 4 shows the analysis of variance between funded and nonfunded students on the Shipley Living Scale. The f ratios were

TABLE 4

ANALYSIS OF VARIANCE BETWEEN FUNDED AND NONFUNDED STUDENTS ON THE SHIPLEY TEST OF MENTAL ABILITY

Group	S. S.[c]	M. S.[d]	d.f.[e]	F
Among schools	1.4276	.71381	2	.120[a]
Between groups	5.6167	5.6167	1	.947[b]
Interaction (school and program)	16.708	8.3542	2	1.409[a]
Error	907.37	5.9306	153	

[a]Not significant. $F_{.05}$ for df 2, 153 = 3.06
[b]Not significant. $F_{.05}$ for df 1, 153 = 3.91
[c], [d], [e]Sum of Squares, Mean Square, degrees of freedom

.120 among the three schools, .947 between funded and nonfunded groups, and 1.409 between schools and programs. At 153 degrees of freedom, an f ratio of 3.06 or 3.91 would be required to be significant at the .05 level of confidence. Therefore, no significant difference in mental ability based on the Shipley Scale was apparent between funded and nonfunded students.

As a result, Hypothesis 2 is accepted which states that no significant difference at the .05 level of confidence will occur between groups of funded and nonfunded students in scores achieved on the Shipley Test of Mental Ability.

The analysis of variance involving the number of dependent children of each group is indicated in Table 5. Because of the criteria for obtaining funding, the funded group of students had more children than the nonfunded group as expected. The analysis shows that the f ratio between funded and nonfunded groups is 36.459. At 153 degrees of freedom, an f ratio of 6.81 would be required at

TABLE 5

ANALYSIS OF VARIANCE BETWEEN FUNDED AND NONFUNDED STUDENTS IN NUMBER OF DEPENDENT CHILDREN

Group	S. S.	M. S.	d.f.	F
Among schools	5.1895	2.5948	2	1.905[a]
Between groups	53.747	53.747	1	36.459[b]
Interaction	3.604	1.802	2	1.323[a]
Error	208.40	1.3621	153	

[a]Not significant. $F_{.05}$ for df 2, 153 = 3.06
[b]Significant. $F_{.01}$ for df 1, 153 = 6.81

at the .01 level of confidence. Therefore, a significant difference exists at the .01 level of confidence in the number of dependent children of the funded and nonfunded students, with the funded group having a significantly greater number.

The analysis also shows that no significant difference exists in the number of dependent children of funded students attending the three schools. The f ratio among schools is 1.905. At 153 degrees of freedom, an f ratio of 3.06 is required to be significant at the .05 level of confidence.

Results of the analysis of previous work experience of the funded and nonfunded students is shown in Table 6. The f ratios show that no significant difference exists at the .05 level of confidence between funded and nonfunded students in amount of work experience prior to current enrollment in the postsecondary school. The f ratio of 2.03 does not meet the requirement of 3.91 which is required at the .05 level of confidence. Among the three schools, the f ratio is

TABLE 6

ANALYSIS OF VARIANCE BETWEEN FUNDED AND NONFUNDED STUDENTS IN WORK EXPERIENCE

Group	S. S.	M. S.	d.f.	F
Among schools	4479.	2239.5	2	1.881[a]
Between groups	2418.2	2418.2	1	2.03[b]
Interaction	507.32	253.66	2	.213[a]
Error	1.8214	1190.5	153	

[a]Not significant. $F_{.05}$ for df 2, 153 = 3.06
[b]Not significant. $F_{.05}$ for df 1, 153 = 3.91

1.381. A ratio of 3.06 at 153 degrees of freedom is required for significance at the .05 level of confidence.

The results of the three analyses indicate that funded and nonfunded students were homogeneous in mental ability and previous work experience; however, funded students had significantly more children.

Following the completion of the school year, another computer program was written to analyze the variance between funded and nonfunded students in final grade point average in the selected office education classes. The selected classes used were typewriting, shorthand, accounting, and business machines. The mean GPA for both funded and nonfunded students at the three schools is shown in Table 7.

TABLE 7

FINAL GPA OF FUNDED AND NONFUNDED STUDENTS IN OFFICE EDUCATION CLASSES IN THE THREE SCHOOLS

School	Nonfunded Mean GPA	Funded Mean GPA
UTC/Salt Lake	1.99524	2.33182
UTC/Provo	2.96596	2.50556
CEU	2.9375	2.1125

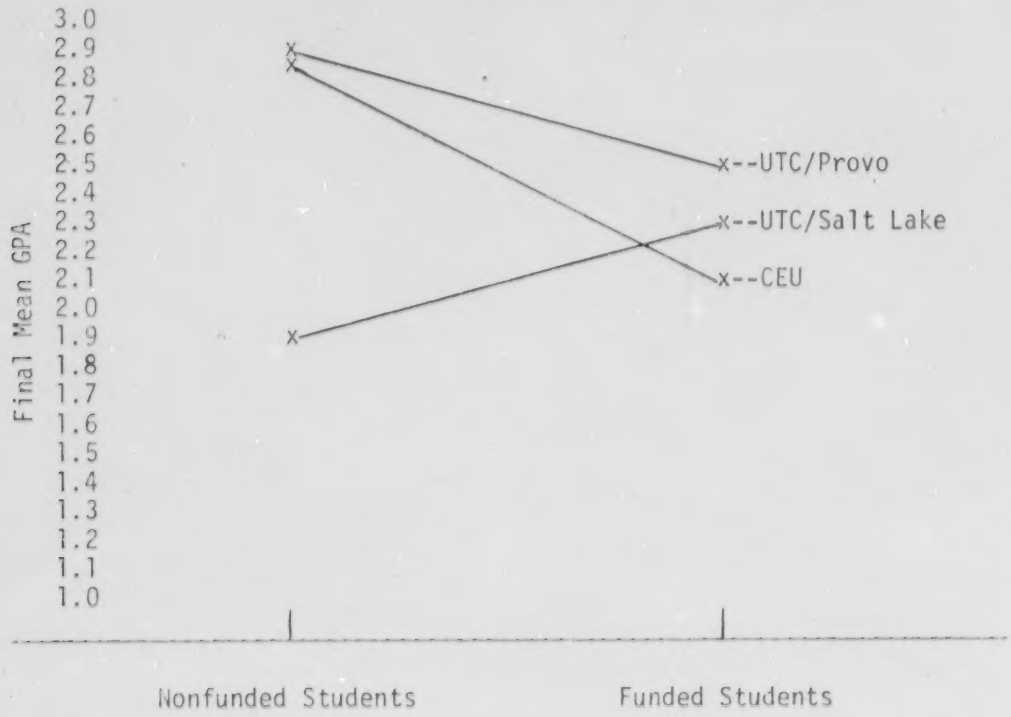
As illustrated in Table 7, the mean GPA of the nonfunded students at UTC/Salt Lake was almost 2.0, while the mean GPA of funded students was 2.3. At UTC/Provo, the mean GPA of the nonfunded students was approximately 3.0, with the funded students' mean GPA being 2.5. At the College of Eastern Utah, nonfunded students had a mean GPA of

2.9 with funded students having a mean GPA of 2.1. These figures indicate a lower GPA for funded students at two of the three schools. AT UTC/Salt Lake, six nonfunded students had a final GPA of 0.0, indicating no earned credits, and may account for the disproportionately low mean average at this school. Only one other nonfunded student had a final GPA of 0.0. Five funded students had a GPA of 0.0.

To further illustrate this difference, Graph 1 shows the graphic slope between funded and nonfunded student GPA's in the three schools.

GRAPH 1

DIFFERENCE IN FINAL GPA AMONG THE THREE COLLEGES BETWEEN FUNDED AND NONFUNDED STUDENTS



Graph 1 illustrates that UTC/Provo and CEU had a similar downward slope representing nonfunded to funded students' GPA, while UTC/Salt Lake had an upward slope. Although the final GPA of funded students was similar in all three schools, the final GPA of nonfunded students was higher at UTC/Provo and CEU and lower at UTC/Salt Lake.

An analysis of variance completed comparing grade point average of funded and nonfunded students is shown in Table 8. The f ratio when comparing funded students with nonfunded students is approximately 2.66. At 145 degrees of freedom, an f ratio of 3.91 is required for significance at the .05 level of confidence.

As illustrated, the f ratio did not meet this requirement. As a result, Hypothesis 1, which states that no significant difference at the .05 level of confidence will occur between the groups of funded and nonfunded students in grade point average earned in the selected office education classes is accepted in terms of the total group. However, Table 8 also indicates the f ratio for comparing the three

TABLE 8

ANALYSIS OF VARIANCE IN GRADE POINT AVERAGE BETWEEN FUNDED AND NONFUNDED GROUPS

Group	S. S.	M. S.	d.f.	F
Schools	11.1119	5.5593	2	4.967[a]
Between groups	2.9745	2.9745	1	2.65746[b]
Interaction	6.4062	3.2031	2	2.81699[c]
Error	162.3	1.1193	145	

[a]Significant. $F_{.01}$ for df 2, 145 = 4.75
[b]Not significant. $F_{.05}$ for df 1, 145 = 3.91
[c]Not significant. $F_{.05}$ for df 2, 145 = 3.06

colleges is 4.967. At 145 degrees of freedom, an f ratio of 4.75 is required to be significant at the .01 level of confidence This means that a significant difference at the .01 level of confidence exists between grade point average of funded and nonfunded students when comparing colleges.

Since the analysis of variance did not show where the difference existed among the three schools, further computations were required. Nine t-tests were computed comparing funded students with nonfunded students at each school, comparing funded students in the three schools, and comparing nonfunded students in the three schools.

The first comparison is the grade point average in selected business classes of UTC/Salt Lake funded students compared with the grade point average of UTC/Salt Lake nonfunded students as illustrated in Table 9. The results show a t-ratio of .9195. At 41 degrees of freedom, a t-ratio of 1.70 would be required to be significant at the .05 level of confidence. Therefore, this table indicates no significant difference in the mean GPA of funded and nonfunded students at UTC/Salt Lake.

TABLE 9

ANALYSIS OF FINAL GRADE POINT AVERAGE
OF UTC/SL FUNDED STUDENTS AND UTC/SL NONFUNDED STUDENTS

Group	Mean	σ	σ_M	$\sigma_{diff.}$	t
UTC/SL funded	2.33182	.9235	.2015	.36605	.9195[a]
UTC/SL nonfunded	1.99524	1.3668	.3056		

[a]Not significant. $t_{.05}$ for df 41 = 1.684

Table 10 shows a similar grade point comparison for UTC/Provo funded and nonfunded students. The results of the t-test show the t-ratio of 2.15. At 81 degrees of freedom, a t-ratio of 1.66 is required for significance at the .05 level. Therefore, a significant difference at the .05 level of confidence exists between the grade point average of funded and nonfunded students at UTC/Provo.

TABLE 10

ANALYSIS OF FINAL GRADE POINT AVERAGE
OF UTC/P FUNDED STUDENTS AND UTC/P NONFUNDED STUDENTS

Group	Mean	σ	σ_M	$\sigma_{diff.}$	t
UTC/P funded	2.50556	.9578	.161904	.2138	2.15295[a]
UTC/P nonfunded	2.96596	.9478	.13975		

[a]Significant. $t_{.05}$ for df 81 = 1.66

When comparing mean grade point average of funded and nonfunded students at CEU, as shown in Table 12, a significant difference at the

TABLE 11

ANALYSIS OF FINAL GRADE POINT AVERAGE
OF CEU FUNDED STUDENTS AND CEU NONFUNDED STUDENTS

Group	Mean	σ	σ_M	$\sigma_{diff.}$	t
CEU funded	2.1125	1.1532	.29775	.46758	1.7644[a]
CEU nonfunded	2.9375	.95386	.360523		

[a]Significant. $t_{.05}$ for df 22 = 1.717

.05 level was also found. Thus, in two of the three colleges, a significant difference was found between funded and nonfunded students in final mean grade point average.

A comparison of the grade point average of UTC/SL funded students and UTC/Provo funded students is illustrated in Table 12. The t-ratio of .67 is not sufficient to be significant at the .05 level of confidence since the t-ratio must exceed 1.68 for 56 degrees of freedom. Therefore, no significant difference exists at the .05 level of confidence between the mean GPA of UTC/Provo funded students and UTC/Salt Lake funded students.

TABLE 12

ANALYSIS OF FINAL GRADE POINT AVERAGE
OF UTC/SL FUNDED STUDENTS AND UTC/PROVO FUNDED STUDENTS

Group	Mean	σ	σ_M	$\sigma_{diff.}$	t
UTC/SL funded	2.33182	.9236	.2015	.258457	.6722[a]
UTC/P funded	2.50556	.9578	.161904		

[a]Not significant. $t_{.05}$ for df 56 = 1.63

Table 13 shows the comparison of mean GPA between UTC/SL funded students and CEU funded students. Since the t-ratio of .61 does not exceed the required ratio of 1.701, no significant difference exists at the .05 level of confidence between mean GPA of CEU funded and UTC/SL funded students.

In comparing the mean GPA of UTC/Provo funded students with CEU funded students, a ratio of 1.16 exists. At 50 degrees of freedom

a ratio of 1.69 is necessary for significance at the .05 level of confidence. Since this ratio did not meet the required level, no significant difference exists between the mean GPA of UTC/Provo funded students and CEU funded students.

TABLE 13

ANALYSIS OF FINAL GRADE POINT AVERAGE
OF UTC/SL FUNDED STUDENTS AND CEU FUNDED STUDENTS

Group	Mean	σ	σ_M	$\sigma_{diff.}$	t
UTC/SL funded	2.33182	.9236	.2105	.35952	.61003[a]
CEU funded	2.1125	1.1532	.29775		

[a]Not significant. $t_{.05}$ for df 36 = 1.69

TABLE 14

ANALYSIS OF FINAL GRADE POINT AVERAGE
OF UTC/P FUNDED STUDENTS AND CEU FUNDED STUDENTS

Group	Mean	σ	σ_M	$\sigma_{diff.}$	t
UTC/P funded	2.50556	.9578	.161904	.3389	1.1598[a]
CEU funded	2.1125	1.1532	.29775		

[a]Not significant. $t_{.05}$ for df 50 = 1.68

An analysis of final GPA of UTC/SL nonfunded students compared with UTC/P nonfunded students revealed that a significant difference at the .01 level of confidence exists as indicated in Table 15. The students in the sample from UTC/Provo had significantly higher grade point averages than did study participants from UTC/Salt Lake.

TABLE 15

ANALYSIS OF FINAL GRADE POINT AVERAGE
OF UTC/SL NONFUNDED STUDENTS AND UTC/P NONFUNDED STUDENTS

Group	Mean	σ	σ_M	$\sigma_{diff.}$	t
UTC/SL nonfunded	1.99524	1.3668	.3056	.36604	2.889[a]
UTC/P nonfunded	2.96596	.9478	.13975		

[a]Significant. $t_{.01}$ for df 66 = 2.358

A similar comparison of UTC/Provo nonfunded students and CEU nonfunded students showed no significant difference in final mean grade point average as illustrated in Table 16.

TABLE 16

ANALYSIS OF FINAL GRADE POINT AVERAGE
OF UTC/P NONFUNDED STUDENTS AND CEU NONFUNDED STUDENTS

Group	Mean	σ	σ_M	$\sigma_{diff.}$	t
UTC/P nonfunded	2.96596	.9478	.13975	.61648	.0462[a]
CEU nonfunded	2.9375	.95386	.360523		

[a]Not significant. $t_{.05}$ for 53 df = 1.68

The final comparison was made of mean GPA of UTC/SL nonfunded students and CEU nonfunded students and is shown in Table 17. The t-ratio of 1.99 exceeds the required ratio of 1.703 at 27 degrees of freedom. This indicates that CEU nonfunded students had a significantly higher GPA than did UTC/SL nonfunded students at the .05 level of confidence.

TABLE 17

ANALYSIS OF FINAL GRADE POINT AVERAGE
OF UTC/SL NONFUNDED STUDENTS AND CEU NONFUNDED STUDENTS

Group	Mean	σ	σ_M	$\sigma_{diff.}$	t
UTC/SL nonfunded	1.99524	1.3668	.3056	.47262	1.9937[a]
CEU nonfunded	2.9375	.95386	.360523		

[a]Significant. $t_{.05}$ for df 27 = 1.703

As a result of the nine t-tests illustrated in Tables 9 through 17, differences in student achievement in the three colleges were identified. Funded students at UTC/Provo and at the College of Eastern Utah had a significantly lower mean GPA than did nonfunded students.

Summary of the Findings

1. No significant difference existed at the .05 level of confidence in the final grade point average of funded and nonfunded students comprising the total sample. As a result, Hypothesis 1, which states that no significant difference will exist in the grade point average of funded and nonfunded students was accepted for the total sample.

2. No significant difference at the .05 level of confidence was found between the final GPA of funded and nonfunded students at UTC/Salt Lake.

3. Nonfunded students at UTC/Provo and CEU had a significantly higher final mean GPA than did funded students, significant at the .05 level of confidence.

4. No significant difference at the .05 level of confidence existed between funded and nonfunded students on the achievement scores of the Shipley Test of Mental Ability. Therefore, Hypothesis 2, which states that no significant difference will occur between funded and nonfunded students in mental ability was accepted.

5. When comparing funded students by college in terms of final GPA, no significant difference occurred between UTC/Salt Lake and UTC/Provo students, between UTC/Salt Lake and CEU students, and between UTC/Provo and CEU students.

6. When comparing nonfunded students by college in terms of final GPA, no significant difference existed between UTC/Provo and CEU students; however, a significant difference at the .01 level of confidence occurred between UTC/Salt Lake and UTC/Provo students, with students at UTC/Provo possessing a significantly higher GPA. Similarly, a significant difference at the .05 level existed between UTC/Salt Lake and CEU students, with CEU students possessing a significantly higher GPA.

7. The majority of funded students at the three colleges were between 18 and 30 years of age, female, and either divorced, widowed, or separated, with dependent children. These findings contrast with the nonfunded students, the majority of which were between 18 and 20 years of age and were primarily single with no children. Of these selected factors, however, only the number of children proved to be significantly different between funded and nonfunded students.

8. Participating funded students at UTC/Salt Lake and College of Eastern Utah were funded primarily by Vocational

Rehabilitation, while students at UTC/Provo were funded by CETA, WIN, and Vocational Rehabilitation.

CHAPTER V

SUMMARY, CONCLUSIONS. AND RECOMMENDATIONS

Summary

In recent years federal funding for training disadvantaged, handicapped, and unemployed single parents has increased at a phenomenal rate, until currently billions of dollars are being spent. Limited research has been completed to determine whether recipients of federal funds derive improved employment and increased wages, but little, if anything, has been done comparing the scholastic achievement of funded students with nonfunded students. Such research has been limited since most funded students have been taught in separate skill centers. A recent trend, however, has been to include these students in regular classes with nonfunded students in existing colleges.

The lack of information concerning cost analysis and comparative achievement of funded students has prompted some criticism by the public of funded students and their respective federal programs. In addition, governmental agencies have been anxious to justify expenditures for funded students as a basis for continuing the programs. This study, a comparison of terminal achievement in office education classes of funded and nonfunded students, was designed to provide some of this vitally needed information.

Procedures

The sample for this study was 74 funded and 76 nonfunded students in three two-year college office education classes during the 1975-76 school year. Funded students were subsidized by CETA, WIN, or Vocational Rehabilitation. Both groups of students were tested initially and found to be statistically homogeneous in terms of mental ability as evaluated by the Shipley Scale (a short test of vocabulary and abstraction problems) and prior work experience. Information regarding age, sex, marital status, number of dependent children, work experience was obtained through a questionnaire.

At the end of the school year, a grade point average for all typewriting, accounting, shorthand, and business machines classes was computed for each student. Final mean GPA of funded students was compared with that of nonfunded students by applying an analysis of variance procedure.

Findings

Results of the double classification analysis of variance, using schools and funding as the main factors and mental ability, number of dependent children, work experience, and GPA as independent variables, were obtained using the IBM 360 computer. Results of the analyses showed the following:

1. No significant difference existed at the .05 level in the final grade point average of funded students and the average of nonfunded students comprising the sample. A significant difference at the .01 level existed, however, when grade point averages were compared between funded and nonfunded students at the three individual

schools. Nonfunded students at UTC/Provo and CEU had a significantly higher final mean GPA than did funded students, significant at the .05 level of confidence, while no significant difference at the .05 level was found between the final GPA of funded and nonfunded students at UTC/Salt Lake.

2. No significant difference at the .05 level of confidence existed between funded and nonfunded students in mental ability or previous work experience, but funded students had significantly more children, significant at the .01 level of confidence.

3. When comparing funded students by college in terms of final GPA, no significant difference occurred; however, when comparing nonfunded students by college in terms of final GPA, a significant difference at the .01 level occurred between UTC/Salt Lake and UTC/Provo students and between UTC/Salt Lake and CEU students at the .05 level, with UTC/Provo and CEU students having significantly higher final GPA's.

4. The majority of funded students at the three colleges were between 18 and 30 years of age, female, and either divorced, widowed, or separated, with dependent children while nonfunded students were between 18 and 20, single, with no children.

5. Participating funded students at UTC/Salt Lake and CEU were funded primarily by Vocational Rehabilitation, while students at UTC/Provo were funded by CETA, WIN, and Vocational Rehabilitation.

Conclusions

Based on the findings of this study, the following conclusions are made:

1. As a group, funded students achieve as well as nonfunded students in office education classes where both students are enrolled.

2. Entering funded students do not differ significantly from entering nonfunded students in mental ability or in the extent of their previous work experience.

Recommendations

Based upon the findings and conclusions of this study, it is recommended that:

1. Since funded students as a group achieve as well as nonfunded students, they should be given the opportunity to retrain, upgrade, and learn new skills in office education classes in Utah colleges.

2. An evaluation of course content and methodology used in classes in which funded students are enrolled needs to be undertaken to determine if optimum opportunities for learning and relevant procedures for training are provided.

3. Research should be undertaken to compare the merits of (1) funded students attending regular college classes with students having better social adjustment but slightly lower achievement with (2) funded students attending skill centers with slightly better student achievement.

APPENDIX A

NONFUNDED STUDENT SAMPLE

NONFUNDED STUDENT SAMPLE

Student Number	Age	Sex	Number of Dependent Children	Marital Status	Shipley Test Score	GPA
1	20	F	3	Single	18.8	2.8
2	18	F	0	Single	12.1	2.5
3	20	F	1	Single	11.5	2.5
4	20	F	0	Single	17.7	2.5
5	18	F	0	Single	13.3	1.8
6	22	F	0	Single	14.7	3.7
7	18	F	0	Single	17.3	3.0
8	34	F	5	Divorced	14.1	3.7
9	19	F	0	Single	14.9	2.4
10	18	F	0	Single	16.1	3.2
11	18	F	0	Single	16.9	3.3
12	18	F	0	Single	17.8	2.0
13	19	F	0	Single	13.3	2.0
14	21	F	0	Single	18.0	2.7
15	18	F	0	Single	17.8	3.8
16	17	F	0	Single	17.8	0.0
17	24	F	0	Single	12.3	0.0
18	20	F	0	Single	16.1	0.0
19	21	F	0	Single	11.7	0.0
20	22	F	0	Single	16.3	0.0
21	46	F	0	Married	18.0	0.0
22	17	F	0	Single	16.5	3.8
23	19	F	0	Single	16.9	2.8
24	18	F	0	Single	15.1	2.7
25	18	F	0	Single	17.7	3.8
26	18	F	0	Single	17.8	3.4
27	20	F	0	Single	17.8	3.8

Nonfunded Student Sample--page 2

Student Number	Age	Sex	Number of Dependent Children	Marital Status	Shipley Test Score	GPA
28	18	F	0	Single	17.5	3.8
29	18	F	0	Single	18.0	3.2
30	18	F	0	Single	16.5	2.8
31	18	F	0	Single	16.9	3.5
32	18	F	0	Single	17.3	3.5
33	18	F	0	Single	16.7	3.0
34	23	F	0	Single	17.9	2.7
35	18	F	0	Single	15.5	3.6
36	21	F	0	Single	19.2	3.8
37	19	F	0	Single	17.5	3.6
38	23	F	0	Single	16.5	2.5
39	18	F	0	Single	15.7	.3
40	18	F	0	Single	18.4	3.8
41	18	F	0	Single	16.9	2.2
42	18	F	0	Single	16.1	2.8
43	20	F	0	Single	14.3	.7
44	18	F	0	Single	16.1	2.6
45	18	F	0	Single	18.4	2.6
46	21	F	0	Single	16.9	3.9
47	18	F	0	Single	13.7	3.2
48	19	F	0	Single	17.3	2.0
49	18	F	0	Single	18.0	2.2
50	19	M	0	Single	14.9	3.0
51	21	F	0	Single	17.9	3.9
52	47	F	1	Separated	18.0	2.1
53	18	F	0	Single	14.9	3.6
54	19	F	0	Single	18.4	2.7
55	24	F	0	Single	17.9	3.4
56	19	F	0	Single	15.7	.8

Nonfunded Student Sample--page 3

Student Number	Age	Sex	Number of Dependent Children	Marital Status	Shipley Test Score	GPA
57	18	F	0	Single	16.7	3.6
58	18	F	0	Single	18.6	2.5
59	19	F	0	Single	17.8	2.6
60	18	F	0	Married	18.0	4.0
61	18	F	1	Single	17.5	3.7
62	18	F	0	Single	17.3	3.3
63	18	F	0	Single	17.8	3.6
64	19	F	0	Single	11.7	3.7
65	25	F	0	Single	17.9	3.7
66	18	F	0	Single	17.7	3.8
67	18	F	1	Married	17.5	2.8
68	19	F	0	Single	15.9	0.0
69	18	F	0	Single	16.7	4.0
70	18	M	0	Single	15.9	3.8
71	20	F	0	Single	17.9	2.0
72	19	F	0	Single	13.9	2.0
73	18	F	0	Single	15.9	3.7
74	19	M	0	Single	17.8	2.3
75	18	F	0	Single	15.9	1.7
76	19	M	0	Single	18.0	4.0

APPENDIX B

FUNDED STUDENT SAMPLE

FUNDED STUDENT SAMPLE

Student Number	Age	Sex	Number of Dependent Children	Marital Status	Shipley Test Score	GPA	Program
1	18	F	0	Single	15.9	2.2	Rehab.
2	47	F	0	Divorced	16.9	2.0	Rehab.
3	24	F	2	Divorced	17.7	2.6	Rehab.
4	25	F	1	Divorced	18.6	2.9	Rehab.
5	39	F	3	Divorced	17.8	3.7	Rehab.
6	41	F	1	Divorced	15.7	3.3	Rehab.
7	17	F	1	Single	14.7	1.2	Rehab.
8	17	F	1	Single	16.5	2.3	Rehab.
9	19	F	1	Married	16.5	2.7	Rehab.
10	22	F	0	Married	15.5	2.5	Rehab.
11	30	F	3	Divorced	16.5	1.0	Rehab.
12	27	F	3	Divorced	17.7	2.7	Rehab.
13	45	F	0	Married	17.3	2.7	Rehab.
14	22	F	1	Married	16.3	2.3	Rehab.
15	30	F	0	Single	12.9	2.7	Rehab.
16	23	F	2	Divorced	13.7	1.6	Rehab.
17	20	F	0	Single	16.5	1.0	Rehab.
18	37	F	1	Divorced	15.5	2.2	Rehab.
19	25	F	2	Separated	15.1	2.2	Rehab.
20	35	F	2	Divorced	19.8	3.7	Rehab.
21	23	F	1	Single	19.0	3.8	WIN
22	18	F	0	Married	14.9	0.0	Rehab.
23	47	F	0	Single	16.1	3.5	Rehab.
24	18	F	0	Single	16.9	2.9	Rehab.
25	20	F	0	Single	13.1	2.0	Rehab.
26	53	M	1	Divorced	18.2	3.1	Rehab.
27	53	F	0	Married	17.3	2.4	Rehab.

Funded Student Sample--page 2

Student Number	Age	Sex	Number of Dependent Children	Marital Status	Shipley Test Score	GPA	Program
28	23	F	2	Divorced	17.9	2.0	Rehab.
29	32	F	3	Divorced	16.5	3.3	Rehab.
30	21	F	1	Single	8.4	2.0	Rehab.
31	26	F	3	Divorced	17.8	3.6	WIN
32	19	F	1	Divorced	16.9	2.6	WIN
33	20	F	1	Single	11.2	2.4	WIN
34	19	F	2	Single	11.9	.7	WIN
35	23	F	2	Separated	18.0	3.2	WIN
36	26	F	4	Divorced	17.7	3.1	WIN
37	24	F	2	Divorced	14.1	2.0	WIN
38	33	F	3	Divorced	17.8	2.0	WIN
39	25	F	1	Separated	18.0	3.9	WIN
40	23	F	1	Divorced	16.1	3.4	WIN
41	23	F	1	Separated	16.9	3.1	WIN
42	26	F	1	Separated	17.9	2.5	WIN
43	18	F	2	Single	17.3	3.5	WIN
44	21	F	1	Divorced	20.2	2.6	WIN
45	23	F	0	Single	17.5	2.7	CETA
46	24	F	0	Single	15.9	1.1	CETA
47	38	F	2	Divorced	12.7	2.9	CETA
48	24	F	1	Divorced	14.3	1.9	CETA
49	24	F	0	Single	17.8	2.6	CETA
50	19	F	1	Divorced	16.1	2.2	CETA
51	20	F	1	Separated	15.9	2.5	CETA
52	28	F	2	Divorced	15.9	3.9	CETA
53	20	F	0	Single	10.6	2.4	CETA
54	22	F	0	Single	16.5	3.2	CETA
55	22	F	2	Divorced	11.5	1.3	CETA
56	24	F	0	Single	17.9	3.7	CETA

Funded Student Sample--page 3

Student Number	Age	Sex	Number of Dependent Children	Marital Status	Shipley Test Score	GPA	Program
57	23	F	1	Married	11.5	0.0	CETA
58	43	F	2	Divorced	10.0	0.0	CETA
59	18	F	0	Single	14.5	.9	Rehab.
60	19	M	0	Single	17.8	4.0	Rehab.
61	20	F	0	Single	15.5	1.4	Rehab.
62	35	F	2	Divorced	14.1	3.1	Rehab.
63	30	F	3	Separated	18.6	3.8	Rehab.
64	28	F	1	Married	11.9	2.4	Rehab.
65	20	F	0	Single	12.7	3.0	Rehab.
66	20	F	0	Single	19.0	2.0	Rehab.
67	22	M	3	Divorced	17.3	2.2	Rehab.
68	21	F	0	Single	13.1	1.4	Rehab.
69	23	F	2	Divorced	17.1	2.9	Rehab.
70	28	F	5	Separated	16.7	3.0	Rehab.
71	20	F	0	Single	11.5	2.0	CETA
72	19	F	0	Single	15.1	1.7	CETA
73	19	F	0	Single	13.1	0.0	Rehab.
74	19	F	0	Separated	17.5	0.0	Rehab.

APPENDIX C

QUESTIONNAIRE AND RELEASE FORM

QUESTIONNAIRE AND RELEASE FORM

Name_____Age__Sex: M F

Birth Date_____Year in College_____

College Attending_____

Major_____

Marital Status (single, married, divorced, separated)_____

Number of dependent children you have_____

Have you been employed full time since you left high school?_____

If so, how many years (or months) did you work?_____

How long has it been since you held your most recent full-time job?

_____

I hereby give my permission for my score on the Shipley test and my final grades to be used for research purposes. I understand that no identification or reference will be made to my name or my parents' names in any of the research.

_____
Signature

APPENDIX D

STATISTICAL FORMULAS

Formula for the Standard Deviation[49]

$$M_1 = \frac{\Sigma fX}{N} \qquad \sigma_1 = \sqrt{\frac{\Sigma fX^2}{N} - M^2}$$

Formula for the Standard Error of the Mean[50]

$$\sigma_{M_1} = \frac{\sigma}{\sqrt{N - 1}}$$

Formula for the Standard Error of the Difference[51]

$$\sigma_{diff.} = \sqrt{\sigma_{M_1} + \sigma_{M_2}}$$

Formula for the t-Test Statistic[52]

$$t = \frac{M_1 - M_2}{\sigma_{diff.}}$$

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[49]George A. Ferguson, Statistical Analysis in Psychology and Education, 2nd ed. (New York: McGraw-Hill, 1966)

[50]Ibid.

[51]Ibid.

[52]Ibid.

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FEDERALLY FUNDED STUDENTS VS. NONFUNDED STUDENTS: THEIR COMPARATIVE ACHIEVEMENT IN OFFICE EDUCATION CLASSES

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M. S. Degree, December 1977

ABSTRACT

The purpose of this study was to compare the terminal achievement of office education students in federally funded programs with office education students in nonfunded programs in three two-year colleges in Utah. One hundred and fifty students, 74 of whom were funded by CETA, WIN, or Vocational Rehabilitation, and 76 of whom were nonfunded were included in the study. The Shipley Scale was used as a measure of mental ability. Final grade point average was used as a measure of terminal achievement. Double classification analysis of variance statistical procedures were used to compare the groups using schools and funding as the main factors and mental ability, number of dependent children, work experience, and grade point average as independent variables.

Results indicated that no significant difference existed between groups in grade point average, mental ability, or prior work experience. It is concluded, therefore, that funded students and nonfunded students achieve comparable grades in office education classes where both are enrolled.

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